

US-PAT-NO: 6282243

DOCUMENT-IDENTIFIER: US 6282243 B1

TITLE: Apparatus and method
for interframe predictive video
coding and decoding
with capabilities to avoid rounding
error accumulation

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US Patent No. - PN (1):

6282243

Detailed Description Text - DETX (15):

The frame memory 109 also receives motion vector information from the motion estimation unit 101, which information serves as an offset address when the memory contents are read out. The frame memory 109 outputs displaced picture data relevant to a given motion vector. The prediction picture calculation unit 110 produces a prediction picture from the picture data supplied from the frame memory 109. In this picture prediction process, pel values on the half-pel grids are calculated from the

values of adjacent pels by interpolation. The interpolation process supports two types of rounding algorithms that round up or down each interpolated pel value to an appropriate integer value. A calculation controller 111 determines which algorithm (i.e., round up or round down) to use in the prediction picture calculation unit 110, on the basis of the motion vector supplied from the motion estimation unit 101 in conjunction with other control signals available. The full details of the prediction picture calculation unit 110 and calculation controller 111 will be separately explained later on.

Detailed Description Text - DETX (17):

The frame memory 205 outputs picture data relevant to the motion vector given by the variable-length decoding unit 201. The prediction picture calculation unit 206 generates a prediction picture from the picture data supplied from the frame memory 205 by performing interpolation and appropriate rounding operations. A calculation controller 207 controls which algorithm (i.e., round-up or round-down) to use in the prediction picture calculation unit 206, on the basis of the motion vector provided from the variable-length decoding unit 201 and other control signals.

US-PAT-NO: 6470048

DOCUMENT-
IDENTIFIER: US 6470048 B1

TITLE: Frequency-based video data substitution for increased video compression ratios

Abstract Text - ABTX (1):

Frequency information is selectively removed from a video signal in order to decrease the number of color values required for video compression. Removal of the frequency information includes both periodic raking out of narrow frequency bands, and rounding of frequency values. The frequency information removal is carried out selectively in those portions of the visible light spectrum in which the human eye's color response is strongest, thus allowing increases in video compression ratios without visible degradation of image quality.